

April 19, 2016

Control Officer/Permitting Division Manager  
MCAQD  
1001 N. Central, Suite 125,  
Phoenix, AZ, 85004

Re: Comments Opposing Permit Revisions to Air Quality Permit Revision 0.0.1.0,  
Hickman's Egg Ranch, 41625 West Indian School Road, Tonopah, AZ 85354

Don't Waste Arizona, Inc. (DWAZ) is a non-profit, state-wide environmental organization dedicated to the protection and preservation of the environment in Arizona. DWAZ is especially concerned about environmental justice, toxic and hazardous air pollutant emissions in communities, and related air pollution issues. DWAZ is also very concerned about corrupt environmental regulatory agencies like MCAQD. DWAZ is headquartered at 2934 West Northview Avenue, Phoenix, AZ 85051, and may be reached at (602) 881-3305. DWAZ has members in the affected area.

This permit must be denied for a number of reasons:

- The application is incomplete and should have not been processed. In fact, all of the applications for air permits submitted by Hickman's at both locations have been incomplete and should never have been processed.
- The permit and hearing notices until now have been incomplete and legally insufficient, so the permit that was issued is illegal.
- Not all potential and actual emissions are provided or analyzed.
- There is no attempt to update the permit condition for odors, despite numerous complaints to the agency about the illegal stench emanating from the facility and offensive for miles, which violates Rule 320 and its Section 302. **Section 302 clearly lists fertilizer and manure as things that shall be regulated to prevent odors from escaping. By refusing to require the equal application of this to people unfortunate enough to live within smelling distance of Hickman's facilities is a violation of the Equal Protection Clause of the US Constitution, and is per se evidence of agency fraud and racketeering.**
- The "Compliance Demonstration" for Odors is inadequate, not scientific or protective of human health and safety, and indeed helps to aid and abet a public nuisance and public health threat, which is gross negligence.
- The facility is masquerading as a non-Title V facility, with the obvious collusion of the poorly trained agency staff. The permit needs to be rescinded, New Source Review conducted, and a Title V permit applied for due to VOC emissions and

particulates. In fact, the two Hickman's facilities are so interconnected, that per regulation, they should be considered one facility.

- The facility has both agriculture and manufacturing/processing, by its own admissions, but the MCAQD is hiding the facts about that and perpetrating a fraud that Hickman's is just agriculture, claiming it is regulated under agricultural BMPs. Even those agricultural BMPs don't fit the facility, but the agency ignores this and creates a fiction. Further, the facility is not within the proper boundaries to be governed by Agricultural BMPs. The Arizona Department of Agriculture's document indicates Tonopah is NOT included in the BMP... see pg 5....  
[https://extension.arizona.edu/sites/extension.arizona.edu/files/attachments/1245-1315\\_VanLeuven\(UPDT\)\\_NRCS\\_Dust\\_Conference%20\(2\).pdf](https://extension.arizona.edu/sites/extension.arizona.edu/files/attachments/1245-1315_VanLeuven(UPDT)_NRCS_Dust_Conference%20(2).pdf)
- MCAQD violates its own rules under the federally enforceable SIP in all permits issued to Hickman's.

**The application remains incomplete and should not have been processed. The SIC/NAICS codes have not been filled in on the application,** or on any of the Hickman's air pollution permit applications, which is necessary for the agency to determine what type of operations are actually occurring at the facility. In over 20 years of reviewing permit applications, DWAZ has not seen this before, and it appears to indicate collusion between the regulatory agency and Hickman's to perpetrate a fraud that the facilities are not industrial but agriculture, part of a scheme to avoid proper regulation and illegally allow the stench emanating from the facility. Yet the proper, primary SIC codes would be 2015 and 2875, because the primary revenue sources for Hickman's are not agriculture, they are selling processed foods and manufactured manure/dead chicken pellets.

This is the first time a permit for this facility has been even somewhat properly noticed. Previous notice for the first permit issued to this facility were not given properly, and even then, when a public hearing was legally requested by Dan Blackson, there was no permit hearing granted. DWAZ receives public notices for all permits issued by MCAQD, and has been receiving them for decades. The first proposed permits for the Hickman's Tonopah facility were never provided to DWAZ, and yet the latest permits are now being provided. **It is easy to deduce that MCAQD was up to something illegal when it hid the public notice for the Hickman's Tonopah facility previously.**

**MCAQD has been consistently misleading the public about the odor issues involving Hickman's facilities.**

**ARS 49-457 (O), a state law, is superseded by the federally recognized SIP for Maricopa County. Until and unless EPA Region 9 allows changes in the SIP for Maricopa County, the SIP is the controlling document.**

In the SIP's definitions, we find odors listed as a separate thing than other air contaminants.

200.9

#### AIR CONTAMINANT

:

Includes smoke, vapors, charred paper, dust, soot, grime, carbon, fumes, gases, sulfuric acid mist aerosols, aerosol droplets, **odors**, particulate matter, windborne matter, radioactive materials, noxious chemicals, or any other material in the outdoor atmosphere.

Also, air pollution is defined broadly:

200.10

#### AIR POLLUTION

:

The presence in the outdoor atmosphere of one or more air contaminants, or combinations thereof, in sufficient quantities, which either alone or in connection with other substances, by reason of their concentration and duration, are or tend to be injurious to human, plant, or animal life, or causes damage to property, or unreasonably interferes with the comfortable enjoyment of life or property of a substantial part of a community, or obscures visibility, or which in any way degrades the quality of the ambient air below the standards established by the Board of Supervisors.

The MCAQD rule regarding odors, which incidentally none of the agency's staff have been trained about, is promulgated in light of the SIP definitions.

### REGULATION III – CONTROL OF AIR CONTAMINANTS

#### RULE 320

#### ODORS AND GASEOUS AIR CONTAMINANTS

##### SECTION 100 – GENERAL

##### 101 PURPOSE:

To limit the emissions of odors and other gaseous air contaminants into the atmosphere.

##### SECTION 200 – DEFINITIONS:

For the purpose of this rule, the following definitions shall apply:

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##### 203 ODORS –

Smells, aromas or stench commonly recognized as offensive, obnoxious or objectionable to a substantial part of a community.

##### SECTION 300 – STANDARDS:

No person shall emit gaseous or odorous air contaminants from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

What is notable here is that there is no footnote about H<sub>2</sub>S. Yet somehow, MCAQD's untrained staff and the agency have been incorrectly asserting that all odors are regulated by an H<sub>2</sub>S standard. Since the staff has not been trained about the odor rule, it is obvious that someone has been telling them to say this.

### 301 ANIMAL AND VEGETABLE MATTER REDUCTION:

No person shall operate or use any machine, equipment or other contrivance for the reduction of animal or vegetable matter, separately or in combination, unless all gases, vapors and gas-entrained effluents have been incinerated to destruction at a temperature of not less than 1,300 degrees Fahrenheit or processed in a manner determined by the Control Officer to be equally or more effective for the control of air pollution.

Despite the rule, MCAQD has ignored this when applying it to Hickman's permits.

### 302 MATERIAL CONTAINMENT REQUIRED:

Materials including, but not limited to, solvents or other volatile compounds, paints, acids, alkalies, pesticides, **fertilizer and manure shall be processed, stored, used and transported in such a manner and by such means that they will not unreasonably evaporate, leak, escape or be otherwise discharged in to the ambient air so as to cause or contribute to air pollution.** Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices or equipment shall be mandatory.

**Section 302 clearly lists fertilizer and manure as things that shall be regulated to prevent odors from escaping. By refusing to require the equal application of this to people unfortunate enough to live within smelling distance of Hickman's facilities is a violation of the Equal Protection Clause of the US Constitution, and is evidence of agency fraud and racketeering.** MCAQD even issued permits to the Hickman's facilities that mention the rule and controlling odors, yet claims the limitations on H<sub>2</sub>S, Hydrogen Sulfide, in the ambient air is the only way to measure and determine compliance. This is scientifically challenged, as **not all odors are caused by H<sub>2</sub>S. And there is a separate and distinct section of the rule under the SIP that deals with H<sub>2</sub>S, which would not be needed if H<sub>2</sub>S were the only thing that causes odors that are regulated under the SIP.**

The other intense odors emanating from the Hickman's facilities from poultry manure also include aliphatic (fatty acids, amines, ammonia, aromatics, and inorganic and organic sulfur. When anaerobic conditions occur, methane, carbon dioxide, ammonia, acetic, propionic and butyric are produced. The decomposition of amino acids by bacteria produces amines, such as cadaverine and putresine. The very offensive smelling compound methyl mercaptan is a product of amino acid decomposition, and can be oxidized to the unpleasant smelling compounds dimethyl disulfide or dimethyl sulfide. Nitrous oxide, mono-methane volatile organic carbon, dust, and microbial and endotoxin aerosols will be produced. And other chemicals causing odors are Dimethyl sulfide, Butyric, isobutyric acid, Valeric acid, Isovaleric acid, Skatole and Indole.

**By not requiring monitoring for or controlling these odors other than hydrogen sulfide from Hickman's, the MCAQD is negligent, and has been. If any injury or death occurs as a result, this will become gross negligence. Loss of life or health or quality of life, property devaluation, stress caused by the agency's refusal to enforce the law, all are actionable due to the MCAQD's negligence.**

**And obviously, if the odor rule did not apply to agriculture in any way, there would and could not be any mention of manure in the rules and SIP definitions. This is more evidence of the pattern of behavior at MCAQD in asserting that Hickman's is exempt.**

**Further, if an arbitrary and capricious "agricultural exemption" equates to no pollution limits, what would prevent any industrial facility from putting sheep or cattle on the back lot and claiming the same?**

#### **304 LIMITATION – HYDROGEN SULFIDE:**

No person shall emit hydrogen sulfide from any location in such a manner or amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.03 parts per million by volume for any averaging period of 30 minutes or more.

**The "Compliance Demonstration" for Odors is inadequate, not scientific or protective of human health and safety, and indeed helps to aid and abet a public nuisance and public health threat, which is gross negligence.**

**Hydrogen sulfide** is a colorless gas that is heavier than air, very poisonous, corrosive, flammable, and explosive.

#### **Toxicity**

Hydrogen sulfide is considered a broad-spectrum poison, meaning that it can poison several different systems in the body, although the nervous system is most affected. The toxicity of H<sub>2</sub>S is comparable with that of carbon monoxide. It forms a complex bond with iron in the mitochondrial cytochrome enzymes, thus preventing cellular respiration.

At some threshold level, believed to average around 300–350 ppm, the oxidative enzymes become overwhelmed. Many personal safety gas detectors, such as those used by utility, sewage and petrochemical workers, are set to alarm at as low as 5 to 10 ppm and to go into high alarm at 15 ppm.

**Exposure to lower concentrations can result in eye irritation, a sore throat and cough, nausea, shortness of breath, and fluid in the lungs (pulmonary edema). These are the same adverse health reactions reported by the public in the vicinity of the Hickman's facility.**

Long-term, low-level exposure may result in fatigue, loss of appetite, headaches, irritability, poor memory, and dizziness. Chronic exposure to low level H<sub>2</sub>S (around 2 ppm) has been implicated in increased miscarriage and reproductive health issues.

- 0.00047 ppm or 0.47 ppb is the odor threshold, the point at which 50% of a human panel can detect the presence of an odor without being able to identify it. *Iowa State University Extension (May 2004). "The Science of Smell Part 1: Odor perception and physiological response" (PDF). PM 1963a. Retrieved 2012-06-20.*
- 10 ppm is the OSHA permissible exposure limit (PEL) (8 hour time-weighted average).
- The Chronic Toxicity Summary from California Office of Environmental Health Hazard Assessment for hydrogen sulfide sets the inhalation reference exposure level at **8ppb** ([http://oehha.ca.gov/air/chronic\\_rels/pdf/7783064.pdf](http://oehha.ca.gov/air/chronic_rels/pdf/7783064.pdf))

The current permit language: "The Permittee shall perform an additional compliance demonstration within six (6) months of completing the initial demonstration. If the average hydrogen sulfide concentration is less than 0.03 ppmv in any of the first two compliance demonstrations, the monitoring shall be subsequently conducted on an annual basis. If the hydrogen sulfide concentration is less than 0.03 ppmv for two consecutive annual compliance demonstrations, compliance demonstrations will no longer be required. If results from any annual compliance demonstration indicate that the hydrogen sulfide concentration is greater than 0.03 ppmv, the Permittee shall return to the semi-annual compliance demonstration schedule."

The most liberal conversion of 0.03 ppmv is no more than 0.06ppm, **which is 127.6 x the odor threshold, and almost 8 times the inhalation reference of 8ppb**. [Note: Temperature and atmospheric pressure conditions can change the conversion from ppmv to ppm.] **So the standard set by MCAQD for hydrogen sulfide is not sufficient to prevent nuisance odors of hydrogen sulfide**, even though there are also many other gases that are causing the nuisance odors. Further, the test "standard" for compliance at 0.03 ppmv is many times the level for chronic exposure, so the MCAQD is aiding and abetting the harming of public health through this permit. That is gross negligence.

The MCAQD should regulate all odors all for this permit, as it clearly has the authority to regulate odors. But this "regulation" of nuisance odors of hydrogen sulfide **is a sham and a threat to human health and safety**.

Further, the "compliance demonstration" isn't scientific or sufficient.

The levels of hydrogen sulfide emanating from the lagoon, manure handling operations, and each of the barns will fluctuate widely depending on temperatures, moisture levels, time of day, and many other factors, so having to take a sample periodically in response to odor complaints at will, not at designated worst-case specified sites, and after months of activity is vastly inadequate, and not at all protective of public health and safety. This is a large facility that will generate large amounts of hydrogen sulfide, and worst case scenarios involving releases of hydrogen sulfide should be examined, including emergency response.

The facility already far exceeds the reporting threshold for its releases of hydrogen sulfide under CERCLA and EPCRA, and there is no reason to foresee the amounts released to decline. [The “Reportable Quantity” under CERCLA 103 and EPCRA 304 for hydrogen sulfide is 100 pounds in a 24 hour period.]

[See 42 U.S. Code § 9603 - Notification requirements respecting released substances

a) Notice to National Response Center upon release from vessel or offshore or onshore facility by person in charge; conveyance of notice by Center

Any person in charge of a vessel or an offshore or an onshore facility shall, as soon as he has knowledge of any release (other than a federally permitted release) of a hazardous substance from such vessel or facility in quantities equal to or greater than those determined pursuant to section 9602 of this title, immediately notify the National Response Center established under the Clean Water Act [33 U.S.C. 1251 et seq.] of such release. The National Response Center shall convey the notification expeditiously to all appropriate Government agencies, including the Governor of any affected State.]

There is an agricultural exemption under CERCLA 103 and EPCRA 304 for facilities with *less than* 30,000 laying hens or broilers, if the farm uses a liquid manure handling system or 82,000 laying hens, if the farm uses other than a liquid manure handling system. However, with millions of laying hens, Hickman’s exceeds these limits, and is not exempt from reporting. ( See <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-SFUND-2007-0469-1358>.)

The EPA’s ALOHA (Aerial Locations of Hazardous Atmospheres) program is capable of mapping projections of plumes and concentrations.

The sampling in response to citizens’ complaints is vastly inadequate and unscientific, and that appears to be quite deliberate. There is only one way to correctly test for hydrogen sulfide in response to a citizen’s odor complaint: The test has to occur at the time of the odor being detected to determine just what levels were actually in the air, and the sampling has to occur in the close vicinity of where the odor was detected. The current method of showing up days after the complaint certainly makes no sense, or not relying on an air monitoring system that was developed using the proper air dispersion models, or not even trying to get a sample of air proximate to where the odor was detected. There should be fence line monitoring set up as well as around the lagoons, which are really cesspools.

From the ALOHA database:

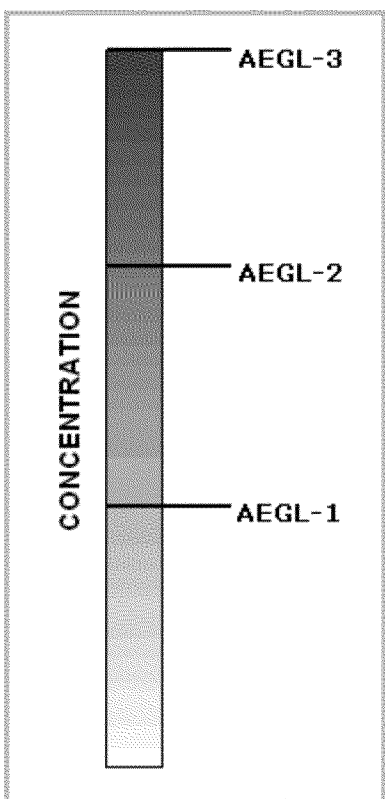
**CHEMICAL DATA:**

Chemical Name: HYDROGEN SULFIDE      Molecular Weight: 34.08 g/mol  
**AEGL-1 (60 min): 0.51 ppm**   AEGL-2 (60 min): 27 ppm   AEGL-3 (60 min): 50 ppm  
IDLH: 100 ppm   LEL: 40000 ppm   UEL: 440000 ppm  
Ambient Boiling Point: -77.8° F  
Freezing Point: -121.8° F

## Acute Exposure Guideline Levels (AEGLs)

AEGLs are exposure guidelines designed to help responders deal with emergencies involving chemical spills or other catastrophic events where members of the general public are exposed to a hazardous airborne chemical. (**Acute exposures are single, non-repetitive exposures that don't exceed 8 hours.**)

What are AEGLs?



AEGLs estimate the concentrations at which most people—including sensitive individuals such as old, sick, or very young people—will begin to experience health effects if they are exposed to a hazardous chemical for a specific length of time (duration). For a given exposure duration, a chemical may have up to three AEGL values, each of which corresponds to a specific tier of health effects.

The three AEGL tiers are defined as follows:

- **AEGL-3** is the airborne concentration, expressed as parts per million (ppm) or milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ), of a substance above which it is predicted that the general population, including susceptible individuals, could experience life-threatening health effects or death.
- **AEGL-2** is the airborne concentration (expressed as ppm or  $\text{mg}/\text{m}^3$ ) of a substance above which it is predicted that the general population, including



susceptible individuals, could experience irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.

- **AEGL-1** is the airborne concentration (expressed as ppm or mg/m<sup>3</sup>) of a substance above which it is predicted that the general population, including susceptible individuals, could experience notable discomfort, irritation, or certain asymptomatic nonsensory effects. However, the effects are not disabling and are transient and reversible upon cessation of exposure.

All three tiers (AEGL-1, AEGL-2, and AEGL-3) are developed for five exposure periods: 10 minutes, 30 minutes, 60 minutes, 4 hours, and 8 hours.

Maricopa County Air Quality Department issued an Air Quality Permit to Operate and/or Construct without the proper application, without a proper New Source Review, and without an adequate understanding of the volume, types and sources of air pollutants to be emitted from either facility.

**The Hickman operations exceed allowable VOC emission thresholds in the 8-hour ozone nonattainment area and should be required to have a Title V permit. (See attached files provided by email.)**

**The facility is actually a Title V major source, and the current permit should be rescinded, and a new, Title V permit should be applied for. There should also be a New Source Review before any permit is issued.**

Stated below are the reasons why the Non-Title V Air Quality Permit to Operate and/or Construct should be revoked for both the Tonopah and Arlington sites and a Title V permit be required.

The operations are both located in an 8-hour Non-Attainment Area for Ozone. In 2008, the EPA revised the eight-hour ozone standard to 0.075 parts per million (ppm). More recently, on October 1, 2015, the Agency lowered the standard to 0.070 ppm. On May 21, 2012, EPA published a final rule to designate the Maricopa nonattainment area as a Marginal Area with a December 31, 2015 attainment date. Because both Hickman's facilities are located in the non-attainment area, the major source permit threshold for Volatile Organic Compound (VOC) emissions from each facility is 100 tons per year (tpy) and it will soon be lower when the new federal standard for ozone is required to be implemented in Arizona.

The EPA released a report on emissions data from two manure belt layer houses in Indiana on July 31, 2010 as part of the National Air Emissions Monitoring Study<sup>1</sup> (NAEMS). The findings of that report showed that there was 0.0000596 kg/day<sup>1</sup> per bird of VOCs emitted from the Indiana facility, which housed 500,000 birds at the time of the study. Both Hickman facilities consist of manure belt caged layer hen houses. Each house is 60,000ft<sup>2</sup> and is ventilated by approximately 48 52-inch tunnel fans, which will move 28,000 cfm (cubic feet minute) under general operating conditions. Currently,

Hickman's Egg Ranch, Inc. in Tonopah, Arizona houses approximately 4.3 million birds. The similarity of this operation to the Indiana study indicates that expected VOC emissions from this facility are approximately 256 kg/day or 103 tpy.

Representatives of Hickman Family Farms have indicated that full animal capacity of this site will eventually be 10-12 million birds. At the volume of animals planned for this facility, expected VOC emissions could reach 715 kg/day or 288 tpy. Our analysis shows that this facility has already reached the number to exceed emission 100 tpy of VOCs in a non-attainment area. The evaluation and analysis of the Indiana NAEMS data showed that the Number to Exceed Emissions Threshold (NEET) would be met at 4.6 million birds. Either way, this facility is expanding to potentially house 12 million birds. Our estimations are as follows:

a. Annual VOCs at Tonopah facility: (Currently – 4.3 million birds) ~ (59.6mg/day/hen)

$0.0000596 \text{ kg/day/hen} \times 4.3 \text{ million birds} = 256.28 \text{ kg/day}^1 \times 365 \text{ days} = 93,542 \text{ kg/year} \times 2.20462 \text{ lbs} = 206,225 \text{ lb/yr} = 103 \text{ tpy (tons per year)}$

b. Max. Annual VOCs at Tonopah facility: (12 million birds) ~ (59.6 mg/day/hen)  
 $0.0000596 \text{ kg/day/hen} \times 12 \text{ million birds} = 715 \text{ kg/day}^1 \times 365 \text{ days} = 261,048 \text{ kg/year} \times 2.20462 \text{ lbs} = 575,512 \text{ lbs/yr} = 288 \text{ tpy}$

These calculations are only for the buildings that the birds are housed in. **No emissions calculations were estimated for the manure sheds at the Tonopah facility. This must be done. Additionally, the calculations do not include emissions from emergency diesel generators or process wastewater evaporation ponds at both facilities. This also must be done.**

**There is also evidence of processing and production codependency between the Hickman's Tonopah and Arlington sites, which means they should be considered one source.**

According to data from the 2007 Maricopa 8-hour Ozone Plan Appendices vol.1, and calculations based upon the results of the NAEMS study, both Hickman sites together are currently the top VOC stationary source in Maricopa County. Failure to regulate and control these VOC emissions can and will cause the eventual loss of a billion dollars/year in federal highway funds as the area fails to achieve compliance with NAAQS. That would make Hickman's eggs the most expensive on earth.

The Arizona Department of Agriculture's document indicates Tonopah is NOT included in the Ag BMP area... see pg 5....

[https://extension.arizona.edu/sites/extension.arizona.edu/files/attachments/1245-1315\\_VanLeuven\(UPDT\)\\_NRCS\\_Dust\\_Conference%20\(2\).pdf](https://extension.arizona.edu/sites/extension.arizona.edu/files/attachments/1245-1315_VanLeuven(UPDT)_NRCS_Dust_Conference%20(2).pdf)

The Maricopa County map showing the non-attainment area which is required to be under BMP. (Again, Tonopah is NOT on this map either)

[http://www.azmag.gov/Documents/TIP\\_2013-10-23\\_PM10-Nonattainment-Area-Boundary-Map-with-Monitor-Locations-for-Maricopa-and-Pinal-Counties-Arizona.pdf](http://www.azmag.gov/Documents/TIP_2013-10-23_PM10-Nonattainment-Area-Boundary-Map-with-Monitor-Locations-for-Maricopa-and-Pinal-Counties-Arizona.pdf)

This means that the current permit, which was issued without proper notice anyway, has illegal permit conditions, is an illegal permit, and always has been. Since the facility was required to get a valid air pollution permit before commencing construction, the entire facility is now illegally constructed. In its haste to ignore the laws and rights of the people of Tonopah and to scheme up a way to protect the interests of County Supervisor Hickman, the MCAQD has allowed this travesty, this fraudulent scheme, to the detriment of the health and safety of the citizens of Tonopah.

It appears that many MCAQD staff and administrators are involved in the Hickman's scandal, and it is suggested that all seek their own legal counsel in these matters. A criminal investigation is also warranted due to the gross negligence alleged. It is DWAZ's understanding that to conspire to break air pollution laws that are part of the federally-approved SIP is criminal activity, and if agency staff is complicit, that makes the situation worse for all defendants, and opens the door for a racketeering and fraud case. This constitutes formal notice.

Sincerely,

Stephen M. Brittle  
President  
Don't Waste Arizona  
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Phoenix, AZ 85051  
602-881-3305

cc: EPA Region 9